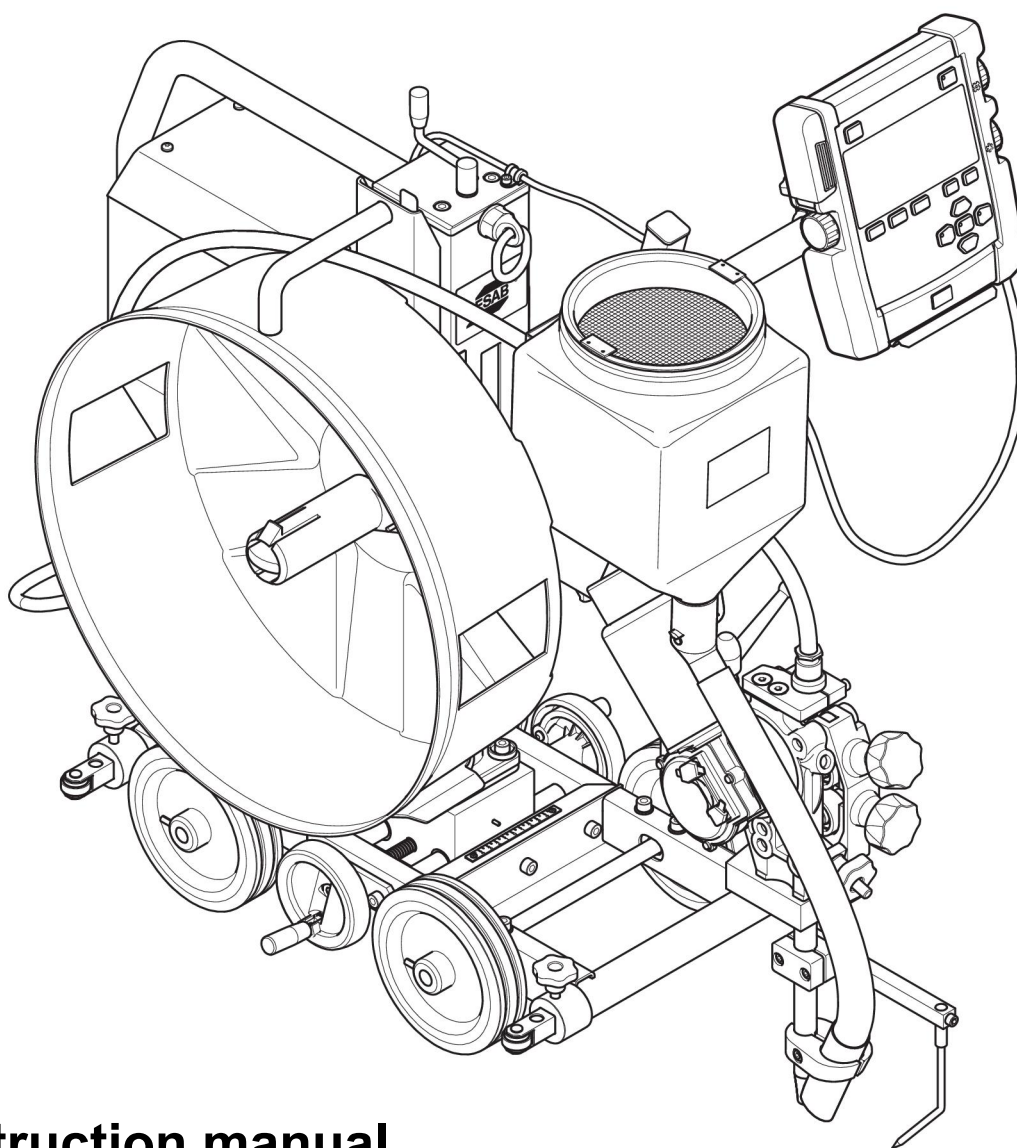


Versotrac

EWT 1000



Instruction manual
Original instructions



EU DECLARATION OF CONFORMITY

According to
The Machinery Directive 2006/42/EC, entering into force 29 December 2009
The Low Voltage Directive 2014/35/EU, entering into force 20 April 2016
The EMC Directive 2014/30/EU, entering into force 20 April 2016
The RoHS Directive 2011/65/EU, entering into force 2 January 2013

Type of equipment

Subarc welding tractor

Type designation

Versotrac,	Serial number: 844 xxx xxxx, including:
- EWT 1000 drive unit,	Item number: 0904 200 880
- EWH 1000 welding head,	Item number: 0904 520 880
- EAC 10 control unit,	Item number: 0460 820 983

Brand name or trademark

ESAB

Manufacturer or his authorised representative established within the EEA**Name, address, and telephone No:**

ESAB AB
Lindholmsallén 9, Box 8004, SE-402 77 Göteborg, Sweden
Phone: +46 31 50 90 00, www.esab.com

The following harmonised standard in force within the EEA has been used in the design:

EN 60974-5:2013,	Arc Welding Equipment – Part 5: Wire feeders
EN 60974-10:2014,	Arc Welding Equipment – Part 10: Electromagnetic compatibility (EMC) requirements
EN 12100:2010,	Safety of machinery – Risk assessment and risk reduction general principles for design

Additional Information:

Restrictive use, Class A equipment, intended for use in location other than residential

By signing this document, the undersigned declares as manufacturer, or the manufacturer's authorised representative established within the EEA, that the equipment in question complies with the safety requirements stated above.

Date

Gothenburg

2018-12-18

Signature

Peter Kjällström

Position

Automation Equipment Director

CE 2018

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1 SAFETY

1.1 Meaning of symbols

As used throughout this manual: Means Attention! Be Alert!

**DANGER!**

Means immediate hazards which, if not avoided, will result in immediate, serious personal injury or loss of life.

**WARNING!**

Means potential hazards which could result in personal injury or loss of life.

**CAUTION!**

Means hazards which could result in minor personal injury.

**WARNING!**

Before use, read and understand the instruction manual and follow all labels, employer's safety practices and Safety Data Sheets (SDSs).



1.2 Safety precautions

Users of ESAB equipment have the ultimate responsibility for ensuring that anyone who works on or near the equipment observes all the relevant safety precautions. Safety precautions must meet the requirements that apply to this type of equipment. The following recommendations should be observed in addition to the standard regulations that apply to the workplace.

All work must be carried out by trained personnel well-acquainted with the operation of the equipment. Incorrect operation of the equipment may lead to hazardous situations which can result in injury to the operator and damage to the equipment.

1. Anyone who uses the equipment must be familiar with:
 - its operation
 - location of emergency stops
 - its function
 - relevant safety precautions
 - welding and cutting or other applicable operation of the equipment
2. The operator must ensure that:
 - no unauthorised person is stationed within the working area of the equipment when it is started up
 - no-one is unprotected when the arc is struck or work is started with the equipment
3. The workplace must:
 - be suitable for the purpose
 - be free from drafts

4. Personal safety equipment:
 - Always wear recommended personal safety equipment, such as safety glasses, flame-proof clothing, safety gloves
 - Do not wear loose-fitting items, such as scarves, bracelets, rings, etc., which could become trapped or cause burns
5. General precautions:
 - Make sure the return cable is connected securely
 - Work on high voltage equipment **may only be carried out by a qualified electrician**
 - Appropriate fire extinguishing equipment must be clearly marked and close at hand
 - Lubrication and maintenance must **not** be carried out on the equipment during operation

**WARNING!**

Arc welding and cutting can be injurious to yourself and others. Take precautions when welding and cutting.

**ELECTRIC SHOCK - Can kill**

- Install and ground the unit in accordance with instruction manual.
- Do not touch live electrical parts or electrodes with bare skin, wet gloves or wet clothing.
- Insulate yourself from work and ground.
- Ensure your working position is safe

**ELECTRIC AND MAGNETIC FIELDS - Can be dangerous to health**

- Welders having pacemakers should consult their physician before welding. EMF may interfere with some pacemakers.
- Exposure to EMF may have other health effects which are unknown.
- Welders should use the following procedures to minimize exposure to EMF:
 - Route the electrode and work cables together on the same side of your body. Secure them with tape when possible. Do not place your body between the torch and work cables. Never coil the torch or work cable around your body. Keep welding power source and cables as far away from your body as possible.
 - Connect the work cable to the workpiece as close as possible to the area being welded.

**FUMES AND GASES - Can be dangerous to health**

- Keep your head out of the fumes.
- Use ventilation, extraction at the arc, or both, to take fumes and gases away from your breathing zone and the general area.

**ARC RAYS - Can injure eyes and burn skin**

- Protect your eyes and body. Use the correct welding screen and filter lens and wear protective clothing.
- Protect bystanders with suitable screens or curtains.

**NOISE - Excessive noise can damage hearing**

Protect your ears. Use earmuffs or other hearing protection.

MOVING PARTS - Can cause injuries



- Keep all doors, panels and covers closed and securely in place. Have only qualified people remove covers for maintenance and troubleshooting as necessary. Reinstall panels or covers and close doors when service is finished and before starting engine.



- Stop engine before installing or connecting unit.
- Keep hands, hair, loose clothing and tools away from moving parts.

FIRE HAZARD



- Sparks (spatter) can cause fire. Make sure that there are no inflammable materials nearby.
- Do not use on closed containers.

MALFUNCTION - Call for expert assistance in the event of malfunction.

PROTECT YOURSELF AND OTHERS!



CAUTION!

This product is solely intended for arc welding.



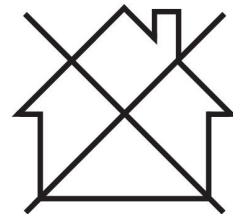
WARNING!

Do not use the power source for thawing frozen pipes.



CAUTION!

Class A equipment is not intended for use in residential locations where the electrical power is provided by the public low-voltage supply system. There may be potential difficulties in ensuring electromagnetic compatibility of class A equipment in those locations, due to conducted as well as radiated disturbances.



NOTE!

Dispose of electronic equipment at the recycling facility!

In observance of European Directive 2012/19/EC on Waste Electrical and Electronic Equipment and its implementation in accordance with national law, electrical and/or electronic equipment that has reached the end of its life must be disposed of at a recycling facility.

As the person responsible for the equipment, it is your responsibility to obtain information on approved collection stations.

For further information contact the nearest ESAB dealer.



ESAB has an assortment of welding accessories and personal protection equipment for purchase. For ordering information contact your local ESAB dealer or visit us on our website.

2 INTRODUCTION

The **EWT 1000** welding equipment is designed for **Submerged Arc Welding (SAW)** of butt and fillet joints.

All other applications are prohibited.

The equipment is intended for use in combination with **EAC 10** and ESAB digital power sources **LAF xxx1**, **TAF xxx1** or **Aristo 1000** and through the analogue interface also **LAF 635** and **LAF 1000**.

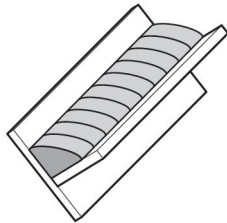
The **EAC 10** also supports analogue controlled power sources from other suppliers, see chapter "Connecting to compatible DC analogue power source" for more information about the interface.

2.1 Welding method

2.1.1 Definitions

SAW The weld bead is protected by a cover of flux during the welding.

Flat fillet welding Fillet welding in F1/PA position.



2.1.2 Submerged Arc Welding (SAW)

Use **EWH 1000** welding equipment for Submerged Arc Welding.

EWH 1000 permits loads up to 1000 A (100%).

This version can be equipped with feed rollers for single wire welding. A special knurled feed roller is available for flux-cored wire, which guarantees even wire feed without the risk of deformation of welding wire due to high feed pressure.

2.2 Horizontal welding

The product described in this manual is designed for horizontal welding. The welding tractor can be used for flat fillet welding when welding a tilted fillet joint with the optional flat fillet welding kit.



NOTE!

Do not use **EWT 1000** when welding on inclined planes.

2.3 Stability



NOTE!

Always check the welding equipment for stability before starting to weld.

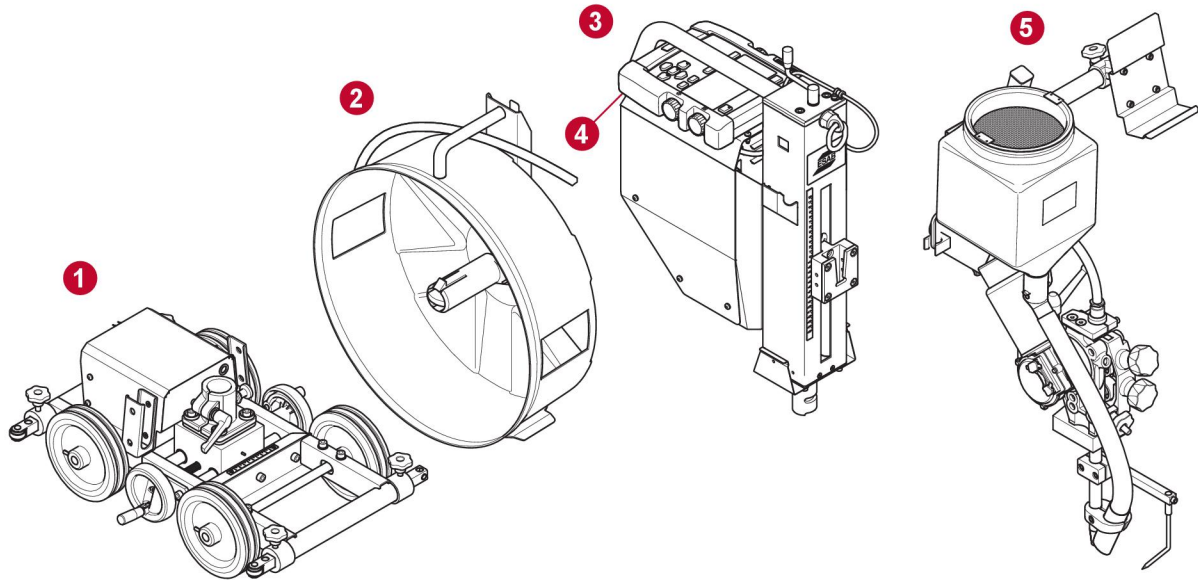
The EWT 1000 is designed to be flexible and cover many different welding applications and setups. The stability can be improved by moving the horizontal slide, moving wire bobbin to opposite side, etc.

Avoid welding on surfaces with a slope greater than 3° (>5 cm/m) due to risk of weld defects caused by the large size of the melted metal in the weld pool.

3 TECHNICAL DATA

3.1 Welding tractor EWT 1000

EWT 1000, from serial no. 841-xxx-xxxx	
	EWT 1000
Supply voltage	60 V DC or 42 V AC, 50/60 Hz
Max power requirement	900 VA
Travel speed	0.1–2.0 m/min (0.3–6.6 feet/min)
Brake hub braking torque	1.5 Nm (13.3 in. lb)
Minimum turning radius for circumferential welding	
Inside object diameter	3000 mm (9 ft 10.11 in.)
Outside object diameter, four wheels	3900 mm (12 ft 9.54 in.)
Minimum pipe diameter for internal joint welding	1100 mm (3 ft 7.31 in.)
Maximum weight of wire	30 kg (66 lb)
Weight	
Total, excluding wire and flux	67 kg (148 lb)
Tractor carriage	22.1 kg (48.7 lb)
Bobbin holder, without wire	6 kg
Column with EAC 10	25 kg
Relative air humidity	Max 95%
Operating temperature	-10 to +40 °C (-14 to +104 °F)
Storage temperature	-20 to +55 °C (-4 to +131 °F)
Maximum surface temperature	60 °C
EMC classification	Class A
Enclosure class	IPXX



- | | |
|-----------------------|----------------------------|
| 1. Tractor carriage | 4. EAC 10 |
| 2. Bobbin holder | 5. EAC 10, control pendant |
| 3. Column with EAC 10 | 6. EWH 1000, welding head |

3.2 Control unit EAC 10

EAC 10, from serial no. 841-xxx-xxxx	
Supply voltage	60 V DC or 42 V AC, 50/60 Hz
Supply voltage to control pendant	12 V DC
Power requirement	Max 900 VA
Motor connections adapted for ESAB motors	6 A 100%
Speed control	Feedback from pulse encoder
Operating temperature	-10 to +40 °C (-14 to +104 °F)
Storage temperature	-20 to +55 °C (-4 to +131 °F)
Relative air humidity	Max 95%
Dimensions l×w×h	
EAC 10, complete control unit	275×300×165 mm (10.8×11.8×6.5 in.)
EAC 10 control pendant	245×225×50 mm (9.7×8.9×2.0 in.)
Weight	
EAC 10, complete control unit	6.8 kg (15 lb)
EAC 10 control pendant	1.25 kg (2.8 lb)
Enclosure class	IP23

3.3 Welding head EWH 1000

EWH 1000, from serial no. 841-xxx-xxxx	
Supply voltage	42 V AC
Permissible load at 100%	1000 A

EWH 1000, from serial no. 841-xxx-xxxx	
Wire dimensions	
Fe solid single	1.6–5.0 mm (0.06–0.20 in.)
Fe flux cored	1.6–5.0 mm (0.06–0.20 in.)
SS solid	0.8–5.0 mm (0.03–0.20 in.)
SS flux cored	0.8–5.0 mm (0.03–0.20 in.)
Al Solid	NA
Al Flux Cored	NA
Type of gas	NA
Wire feed speed	
Maximum	9 m/min (29.5 feet/min)
Minimum	0.4 m/min (1.3 feet/min)
Brake hub braking torque	1.5 Nm (13.3 in. lb)
Flux hopper volume	6 l
Dimensions l×w×h	620×530×832 mm (24.4×20.9×32.8 in.)
Weight welding head, excluding wire and flux	17 kg (37.5 lb)
Enclosure class	IPXX
EMC classification	Class A

4 INSTALLATION

4.1 General

The installation must be carried out by a professional.



WARNING!

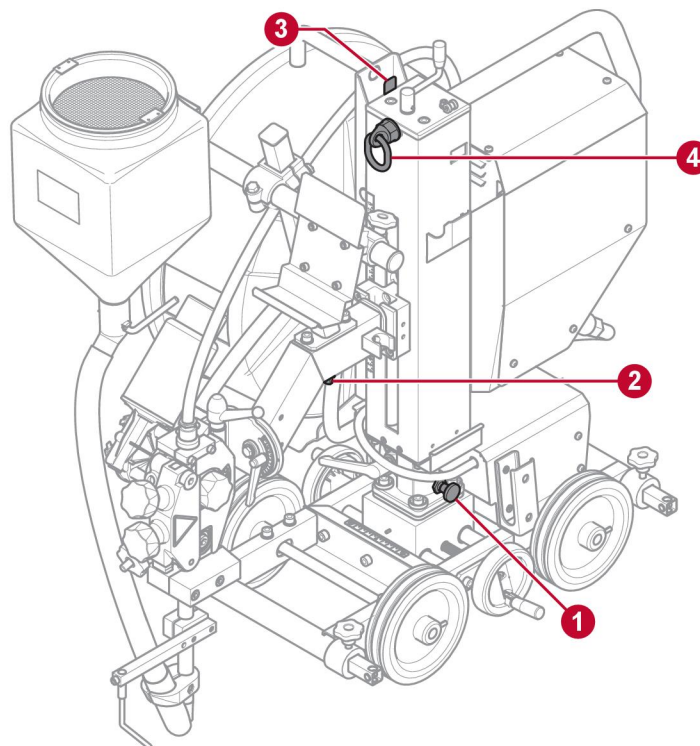
Rotating parts can cause injury, take great care.



CAUTION!

This product is intended for industrial use. In a domestic environment this product may cause radio interference. It is the user's responsibility to take adequate precautions.

4.2 Lifting instructions



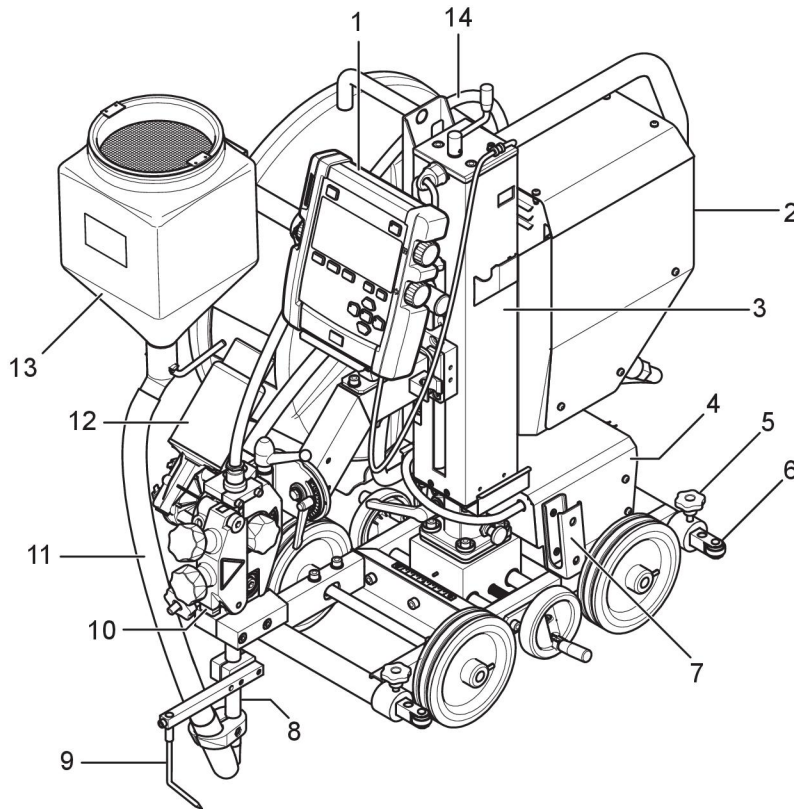
WARNING!

The welding tractor must be lifted using the lifting eye (4).

- Disconnect the power source and remove all consumables (flux and welding wire).
- Disconnect and remove welding cables from the welding tractor. The welding cables are not to be lifted with the tractor.
- Remove optional air and water hoses.
- Make sure the column is in locked position (1), directed forward as shown in illustration.

- Make sure the welding head arm is in locked position (2).
- Remove bobbin holder or remove wire drum from bobbin holder. Make sure that the empty bobbin holder is in locked position (3).

4.3 Main components



- | | |
|----------------------------|---------------------|
| 1. EAC 10 Control pendant | 8. Contact tube |
| 2. EAC 10 Motor drive unit | 9. Guide pin |
| 3. Column | 10. Wire feed unit |
| 4. Tractor carriage | 11. Flux tube |
| 5. Guide bar lock | 12. Wire feed motor |
| 6. Guide bar | 13. Flux hopper |
| 7. Cable support | 14. Wire liner |

4.3.1 Welding cables

Use different number of welding cables for different welding currents:

- | | |
|--------------|--------------------------------|
| Up to 500 A | one 120 mm ² cable |
| 500 - 1000 A | two 120 mm ² cables |



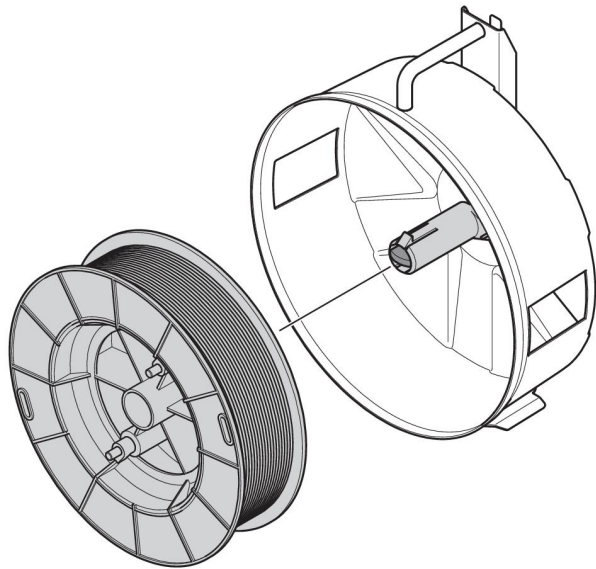
NOTE!

With two welding cable setup, run the welding cables close to each other in parallel, but do not twist them around each other.

4.4 Assembly

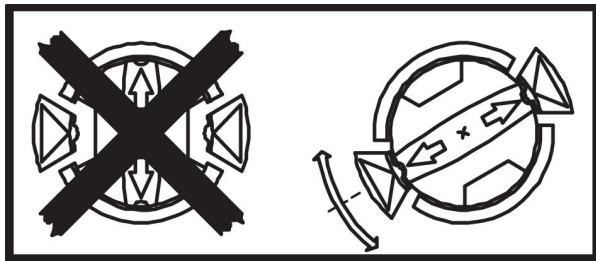
4.4.1 Bobbin holder

Mount the wire drum on the brake hub in the bobbin holder.



WARNING!

To prevent the reel from sliding off the hub: Lock the reel in place by turning the red knob as shown on the warning label attached next to the hub.

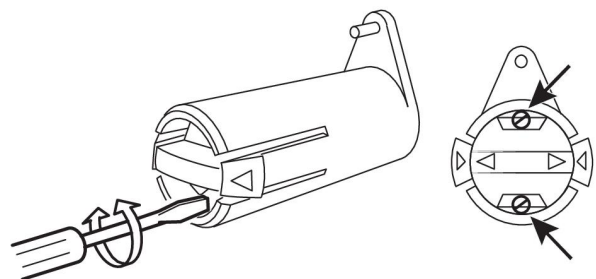


4.4.1.1 Adjusting the brake hub

The brake hub is adjusted at delivery. If readjustment is required, follow the instructions below. Adjust the brake hub so the wire is slightly slack when wire feed stops.

Adjusting the braking torque:

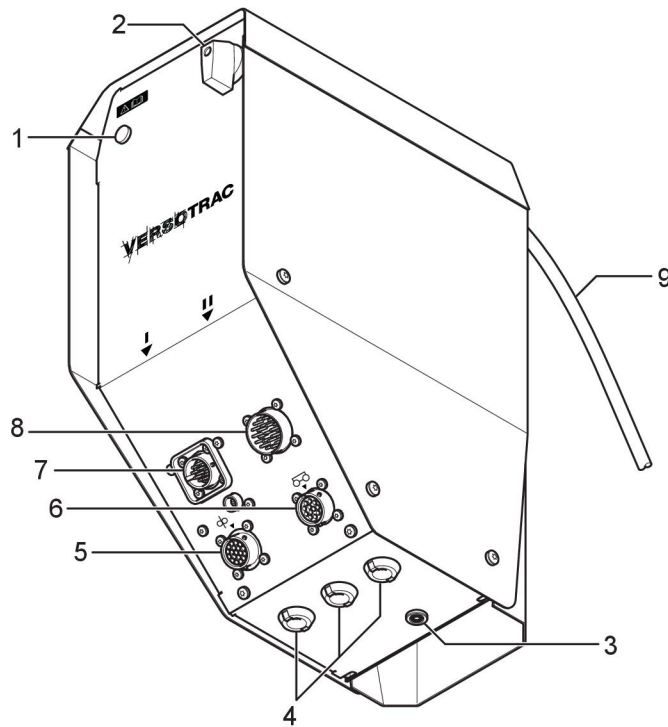
1. Turn the red handle to the locked position.
2. Insert a screwdriver into the springs in the hub.
 - Turn the springs clockwise to reduce the braking torque.
 - Turn the springs counter-clockwise to increase the braking torque.



NOTE!

Turn both springs the same amount.

4.5 Connections



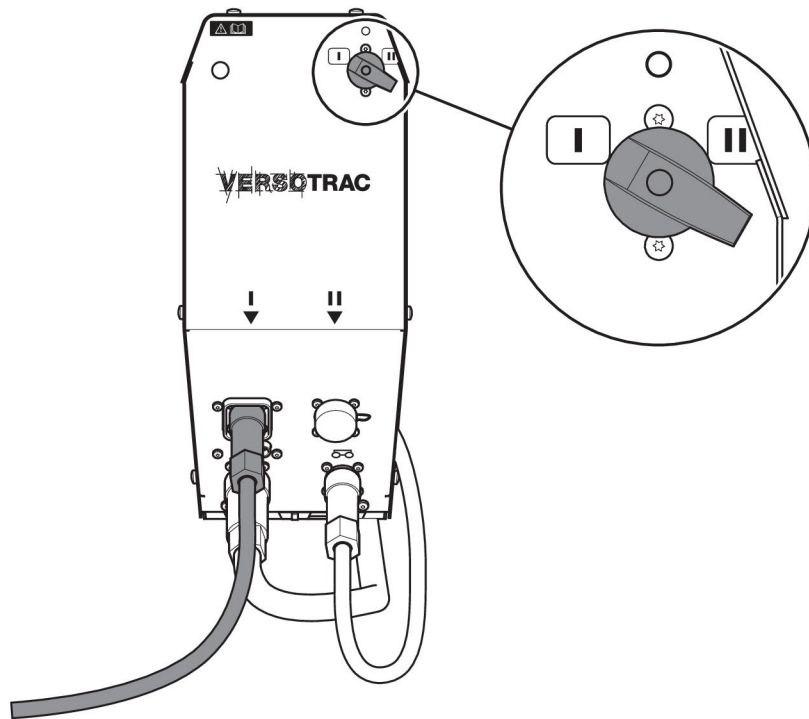
- | | |
|---------------------------------------|-------------------------------------|
| 1. On/Off indicator | 6. Connection tractor carriage |
| 2. On/Off switch | 7. Connection digital power source |
| 3. Work piece voltage reference input | 8. Connection analogue power source |
| 4. Accessory cable entries | 9. Cable to control pendant |
| 5. Connection welding head | |



NOTE!

Connect only digital power source **or** analogue power source at a time.

4.5.1 Connecting to digital power source



Connect the interconnection cable to connector marked with I.

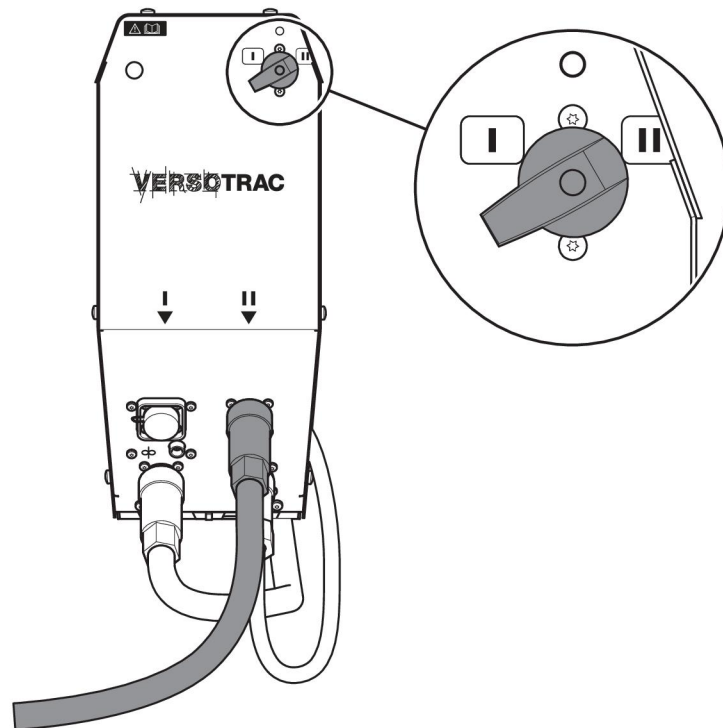
Interconnection cable between CAN based ESAB power source and EAC 10 are available as accessories in different lengths.

ESAB CAN based power sources are LAF xxx1, TAF xxx1 and Aristo® 1000.

For further information about connecting welding power source, see separate instruction manual.

Always use the dust cover on the connections where no cable is connected.

4.5.2 Connecting to compatible DC analogue power source



Connect the interconnection cable to connector marked with **II**.

Interconnection cable between analog based ESAB power source and EAC 10 control unit are available as accessories in different lengths.

Always use the dust cover on the connections where no cable is connected.

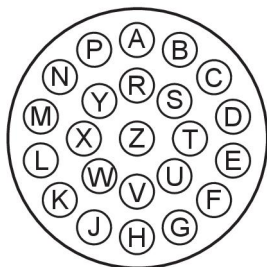
Requirements on the analogue power source

Supply voltage 60 V DC or 42 V AC, 50/60 Hz from welding power source or by external means.

Voltage feedback from negative welding terminal (for welding voltage measurement for display in pendant).

Start input 0-10 V input for setting welding parameter (control signal).

Shunt output or scaled 0-10 V (1 V per 100 arc Amp) output for welding current measurement.



Power source connection socket XP2 pinouts	
B, C	42 V AC
E, F	42 V AC return
J	Power source negative terminal (U-)
W	Power source positive terminal (U+)

Power source connection socket XP2 pinouts	
X	Arc voltage from welding head
K	Power source start - Open collector output
L	0 V, common for power source start and reference
M	0-10 V reference
N	Current shunt negative (-mV)
P	Current shunt positive (+mV)
R	Emergency stop
Y	Emergency stop
S	24 V AC / torch input. For non-ESAB power sources.
T	Weld start / torch common. For non-ESAB power sources.
U	Current feedback (1 V/100 A). For non-ESAB power sources.

5 OPERATION

5.1 General



CAUTION!

Read and understand the instruction manual before installing or operating.



General safety regulations for handling the equipment can be found in the "SAFETY" chapter of this manual. Read it through before you start using the equipment!



NOTE!

When moving the equipment use intended handle. Never pull the cables.

5.2 Transportation

It is possible to transport the welding tractor EWT 1000 following the instructions in section "Lifting instructions".

Follow these instructions to dismount the welding tractor EWT 1000 into four separate modules before transportation.

When transporting the welding tractor EWT 1000 on the wheels: place the horizontal slide in the middle position with the needle pointing to zero on the scale.

1. Turn off and disconnect the power source. Disconnect the cables to the welding head and the tractor carriage (1). Remove the cables from the welding tractor.

**NOTE!**

If the power source is disconnected without turning off power first, the power source emergency stop can be activated.

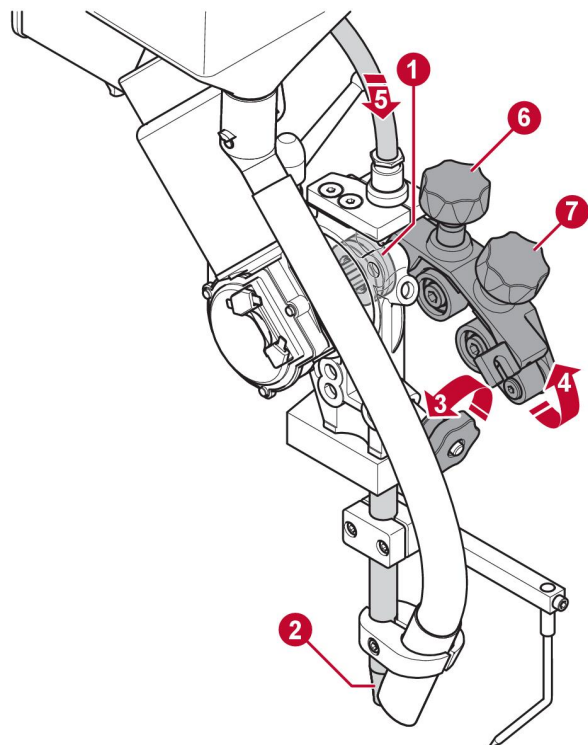
2. Remove wire from wire feed unit and wire liner (2).
3. Unlock and dismount the bobbin holder (3).
4. Place the EAC 10 control pendant on the top of the EAC 10 motor drive unit.
5. Make sure the column is positioned in the middle of the tractor carriage.
6. Unlock and dismount the welding head (4).
7. Disconnect the cable (5) between the tractor carriage and the control unit.
8. Unlock the column rotation with the handle (6). Rotate to end point. Pull (7) and rotate a few more degrees. Dismount the control unit (8).
9. Reassemble in backwards order. Make sure to lock the welding head (6).

5.3 Loading the welding wire

**NOTE!**

The feed rollers are marked with their respective groove diameter (D) on the side of the roller.

1. Turn off EAC 10 using the On/Off switch.
2. Check that feed roller (1) and contact nozzle (2) have the correct dimension for the selected welding wire.
3. Turn the knob (3) to release the wire straightener.
4. Lift up the wire straightener with memory (4). There will be no change in the settings.
5. Feed the welding wire (5) into the contact nozzle.
6. Lower the wire straightener with memory (4) back to its position. Lock by turning the knob (3) fully.
7. Turn on EAC 10 and select the welding wire when prompted on the display.
8. With control unit EAC 10: Feed the welding wire through the contact nozzle until it is visible below the contact nozzle.
9. When needed, adjust wire feed pressure with knob (6).
10. When needed, adjust wire straightness with knob (7).

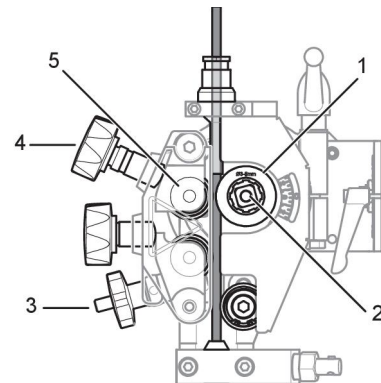
**NOTE!**

Do not tighten feed pressure knob (6) too hard. This can result in overheating the wire feeder.

5.4 Changing the feed roller

5.4.1 Single wire

1. Release the knob (3).
2. Release the hand wheel (2).
3. Change the feed roller (1).
The feed rollers are marked with their respective wire sizes.



5.4.1.1 Knurled rollers for flux-cored wire

- Change the feed roller (1) and pressure roller (5) as a pair for the wire size to be used.



NOTE!

A special stub shaft is required for the pressure roller (ordering no. 0212 901 101).

- Tighten the pressure screw (4) with moderate pressure to ensure that the flux-cored wire does not deform.

5.5 Refilling with flux powder

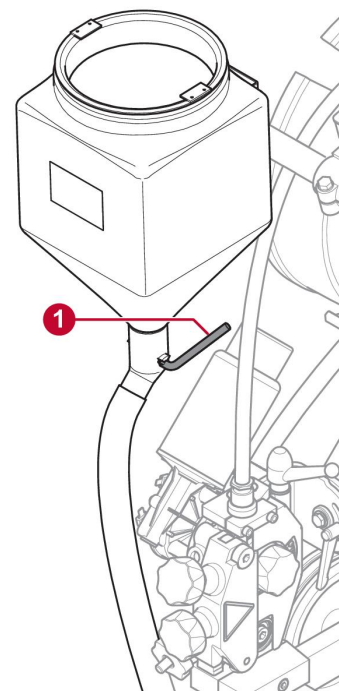
1. Close the flux valve (1) on the flux hopper.
2. Remove the optional cyclone on the flux recovery unit, if fitted.
3. Fill with flux powder.



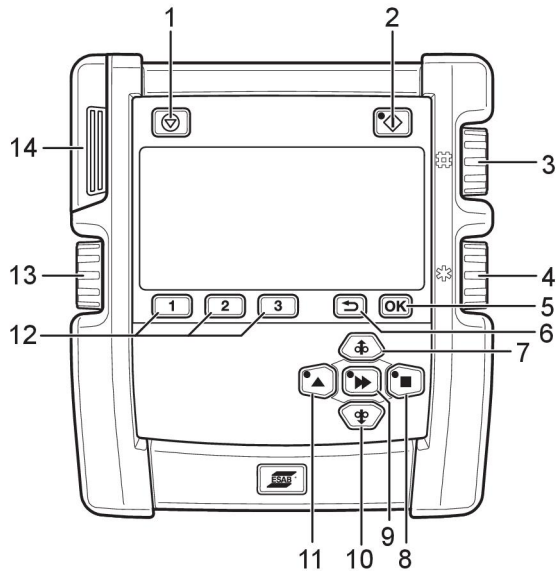
NOTE!

The flux powder must be dry. Use preheated flux powder only when the flux hopper is designed for that.

4. Position the flux tube without twisting it.
5. Adjust the height of the flux nozzle above the weld so that the correct amount of flux is delivered. Flux coverage should be sufficient so that penetration of the arc does not occur.



5.6 Control panel EAC 10

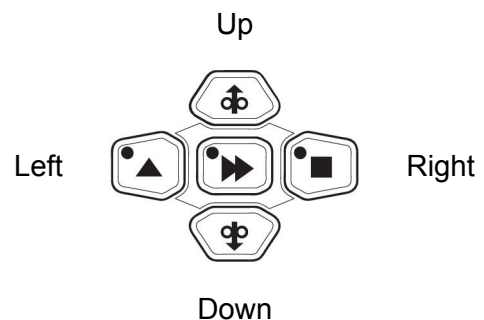


- | | |
|---|------------------------------------|
| 1. Welding stop | 8. Manual travel motion direction |
| 2. Welding start | 9. Fast motion |
| 3. Welding current / Wire feed speed/balance* | 10. Manual wire feed downwards |
| 4. Arc voltage / Offset voltage* | 11. Manual travel motion direction |
| 5. OK / Setting menu | 12. Memory 1, 2, 3 / Soft keys |
| 6. Back | 13. Travel speed / frequency* |
| 7. Manual wire feed upwards | 14. USB connection |

*Only with Aristo® 1000 in AC mode.

5.6.1 Keys and knobs

The buttons are used for Up, Down, Right, Left and Confirm (middle button) during configuration and setting.



Welding stop (1). Stops all travel motions, all motors and welding current.



Welding start (2). The LED is lit when welding is in progress.



The **OK** button (5) is used to confirm a selected choice.



The **Back** (<) button (6) is used to go back one step into the menu.



Press **Manual wire feed upwards** button (7) to feed the wire upwards. The wire is fed as long as the button is pressed.



Press **Travel motion** (8) button to drive in the direction of welding where the symbol is indicated on the weld equipment.



Fast motion button (9) is used together with other buttons to increase speed. Press the button to activate fast motion and then press manual wire feed (7, 10) or travel motion (8, 11) button. The LED on the fast motion button is lit while fast motion is activated. Press again to deactivate fast motion. During configuration, it is possible to confirm and save a value and return to previous screen using the Fast motion button.



Press **Manual wire feed downwards** button (10) to feed the wire downwards. The wire is fed as long as the button is pressed.



Press **Travel motion** (11) button to drive in the direction of welding where the symbol is indicated on the weld equipment.



Three different welding data memories per welding head can be stored in the control panel memory using the soft keys 1, 2 and 3 (12). The soft keys have also varying functions depending on which menu currently is in use. The current function can be seen from the text in the bottom row of the display.



The welding current / wire feed speed/balance knob¹ (3) is used for increasing or decreasing set values.



The arc voltage / offset voltage knob¹ (4) is used for increasing or decreasing set values.



The travel speed/frequency knob¹ (13) is used for increasing or decreasing set values.

¹ Only with Aristo® 1000 in AC mode.

5.6.2 Initial configuration

At first startup after delivery, after program update and after a completed reset, the control panel requires initial configuration. The initial configuration starts automatically.

It is possible for an authorised user to change the configuration in the *GENERAL SETTINGS* menu.

1. Select language using the Up/Down/Right/Left buttons. Confirm with *OK* or with the middle button.
2. Select measurement unit using the Right/Left buttons. Confirm with *OK* or with the middle button.
3. Set date using the Up/Down buttons. Change between year, month and day with the Right/Left buttons. Confirm with *OK* or with the middle button.
4. Set time using the Up/Down buttons. Change between hours and minutes with the Right/Left buttons. Confirm with *OK* or with the middle button.
5. Select wire type using the Up/Down buttons. The wire types shown depend on the welding head detected during startup. Confirm with *OK* or with the middle button.
6. Select wire dimension using the Up/Down buttons. Confirm with *OK* or with the middle button.
7. After initial configuration, the control panel continues to the *SET* menu.

5.6.3 Startup



1. The software version is shown on the control panel during startup. The control panel automatically detects the welding head during startup.

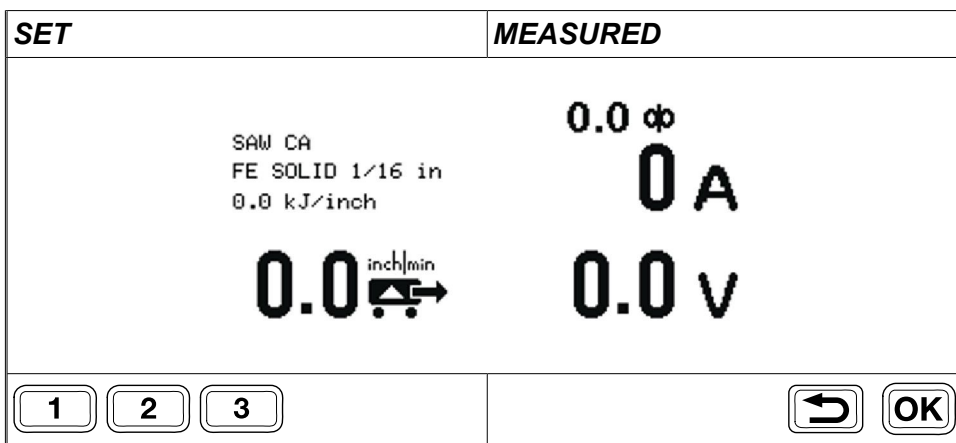


NOTE!

The welding head is identified by the welding head cable. If the cable is replaced, use ESAB original spare part to maintain the feature.

2. If no digital power source is attached, a menu for selecting type of analogue power source is shown.
Previously used analogue power source is shown if on/off switch is in position II. Press any button within 3 seconds to open the menu and change analogue power source using the buttons Up/Down and OK.
If no button is pressed, the startup will proceed with no changes on power source.
3. Previously selected wire type and wire dimension is shown. Press any button within 7 seconds to open the menu. Select wire type and wire dimension using the buttons Up/Down and OK.
If no button is pressed, the control panel continues to the *SET* menu with no changes on wire type or wire dimension.


5.6.4 Measured screen




The *MEASURED* screen shows the measured values during welding. The information on the screen depends on the selected welding method.

The screen shows information divided into four parts:

Method, wire, heat input	Amperage
Travel speed	Voltage

 A short press on *OK* when an AC power source is connected will open the AC settings screen. A long press on *OK* opens the *WELDING MENU* settings screen. Turn any of the knobs after welding stop to open the *SET* screen. The values are shown and the *SET* screen is kept open.

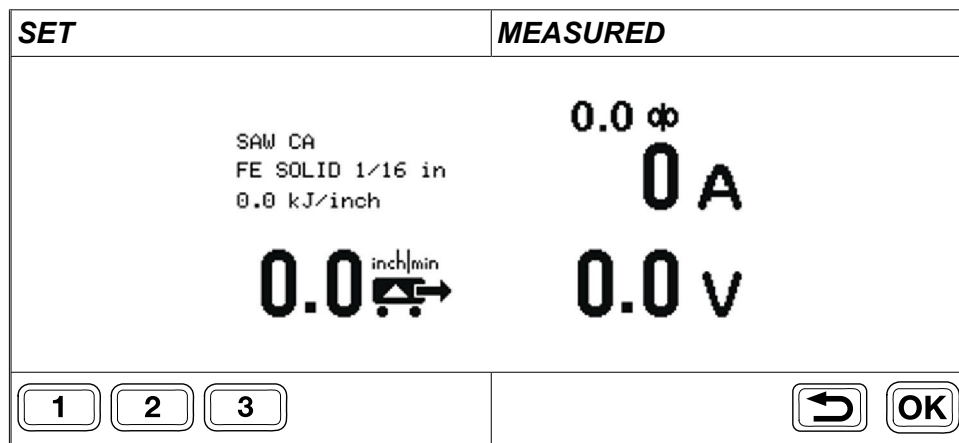
 A short press on any of the keys 1, 2, or 3 recalls the corresponding memory slot. The *SET* screen is opened and the values are displayed.

5.6.5 Set screen, digital power source



NOTE!

The available functions of the *SET* screen depends on selected welding method.





The *SET* screen is used to change welding settings and save settings to the memory slots using the keys 1, 2 and 3.


Turn any of the knobs during welding to open the *SET* screen from the *MEASURED* screen. The values are shown during 2 seconds before returning to the *MEASURED* screen unless any adjustments are made.

If the *SET* screen is opened without ongoing welding, it will stay active. When welding starts, the *MEASURED* screen is activated.

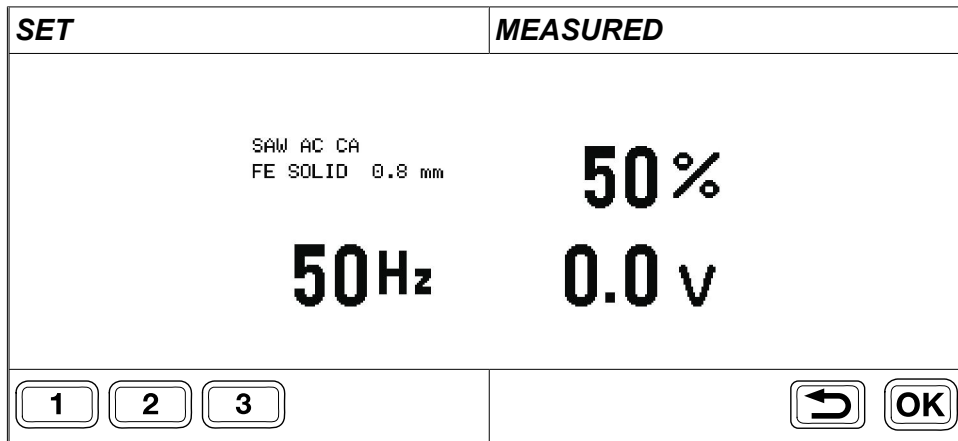
Change the welding settings by using the knob next to the value shown on the display. It is possible to save the settings for easy access.

 A short press on any of the keys 1, 2 or 3 will display the saved welding data memory settings, set the values and show the the *MEASURED* screen again. The welding data memory number in use is shown on the *SET* tab and also with a bar above the key with the corresponding number.

 With AC power source: A short press on the *OK* button opens the *AC SETTINGS* screen.

 A long press on the *OK* button opens the *WELDING MENU*. Return by pressing the *Back* button.

5.6.6 Set screen, analogue power source



With AC power source: A short press on the OK button opens the *AC SETTINGS* screen.

With Aristo® 1000 power source and SAW welding head: A short press on the OK button opens a screen where the knobs will control frequency, balance and offset.







Save values and return to the *MEASURE* screen by pressing the Back button.

5.6.7 Welding menu



When any of the screens *SET* or *MEASURED* is shown, press long on OK to open the extended *WELDING MENU*.

The information on the display depends on the authorisation level, attached power source and welding head. The authorisation level is shown with an icon in the upper right corner of the display.

Example of welding menu for Aristo® 1000 AC/DC			
	WELDING MENU		
	<i>METHOD</i>	<i>DC+</i>	
	<i>REGULATION TYPE</i>	<i>CA</i>	
	<i>START TYPE</i>	<i>DIRECT</i>	
	<i>CRATER FILL TIME</i>	<i>0.0 s</i>	
	<i>BURNBACK TIME</i>	<i>0.50 s</i>	
Example of welding menu for SAW welding with LAF or TAF			
	WELDING MENU		
	<i>REGULATION TYPE</i>	<i>CA</i>	
	<i>START TYPE</i>	<i>DIRECT</i>	
	<i>CRATER FILL TIME</i>	<i>0.0 s</i>	
	<i>BURNBACK TIME</i>	<i>0.7 s</i>	



Select the *WELDING MENU* by pressing the Right button.



Select a menu row using the Up/Down buttons and press OK or confirm with the middle button.



Set a numerical value using the Arc voltage / Offset voltage knob (4). Other values are selected using the Up and Down buttons.



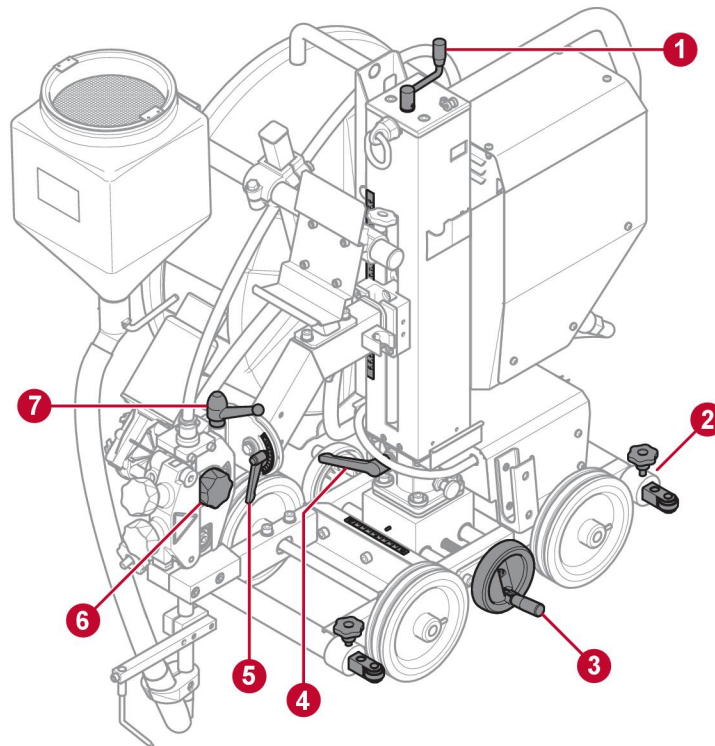
Press OK or the Middle button to confirm and return to the previous menu level. The new value is displayed.



Return to previous menu level **WITHOUT** changed settings with Back or the Left button.



5.7 Adjustments



1. Vertical adjustment of the welding head, see scale on the column.
2. Adjust the guide roller device distance, both in front and back of welding tractor.
3. Adjust the horizontal column location, see scale next to the column.
4. Adjust the rotation angle of the column.



NOTE!

Always keep handle in locked position when not adjusting.

5. Adjust the rotation angle of the welding head, see scale next to handle.



NOTE!

Always keep handle in locked position when not adjusting.

6. Adjust the welding wire tension.
7. Adjust the rotation angle of the welding head.



NOTE!

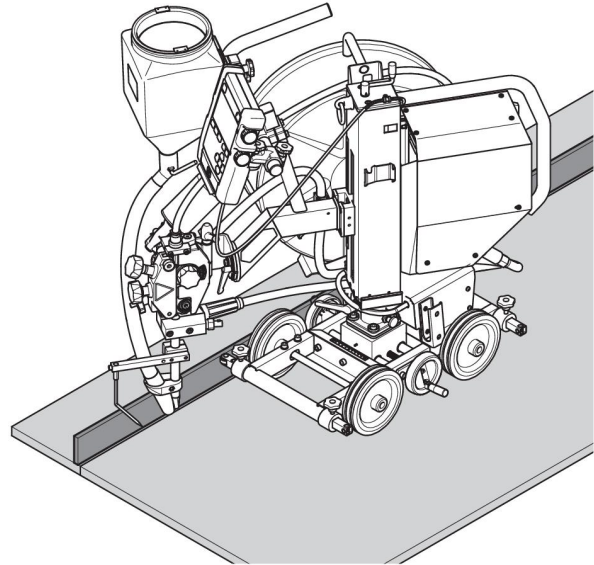
Always keep handle in locked position when not adjusting.

5.8 Welding applications

Basic version

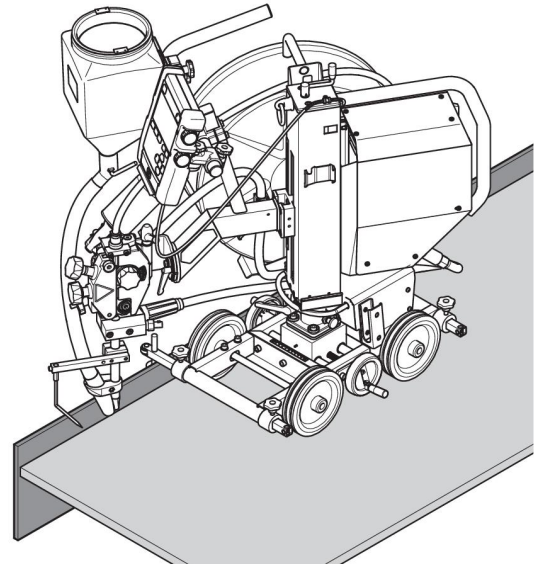
EWT 1000 in basic version with guide roller device. This positions the welding tractor correctly along fillet welds with the driving wheels angled about $0.5-1^\circ$ in towards the vertical plate and with guide roller device steering along a guide parallel to the joint. The guide may be part of the workpiece or a separate guide rail that has been aligned parallel to the joint.

Circular fillet welding. The welding tractor follows the joint using the basic guide arm device. Minimum radius 3.9 m.



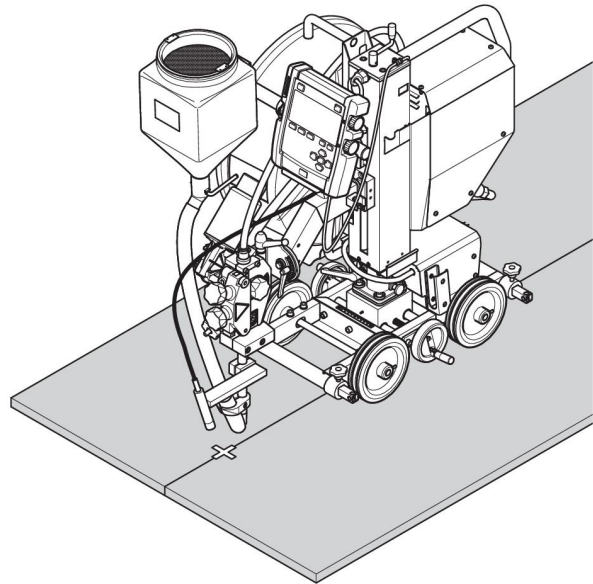
Idling rollers (0333 164 880)

Idling rollers with adjustable height are supplied as an accessory. Required when fillet welding along a low vertical plate, the idling rollers can also be used for various types of workpieces, for example along guide edges parallel to the weld joint. See chapter "ACCESSORIES".

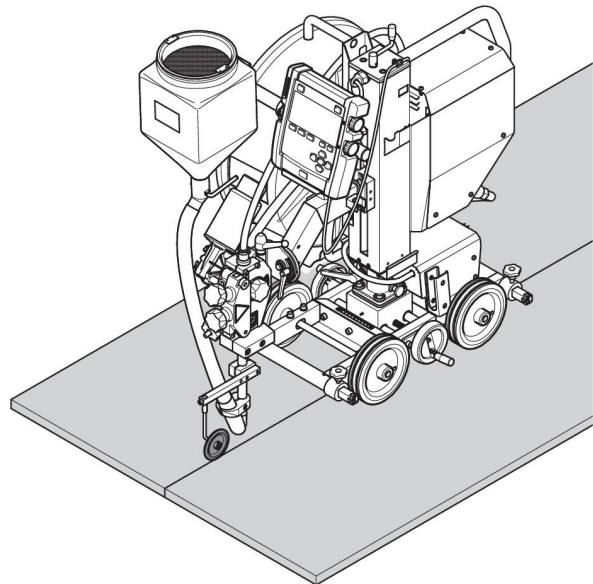


Laser lamp (0821 440 880)

If there is no suitable edge along which to steer the welding tractor mechanically, for example when making an I-joint, the laser lamp will be helpful with submerged-arc welding in order to indicate the position of the welding nozzle in the joint. See chapter "ACCESSORIES".

**Guide wheel bogey (0413 542 880)**

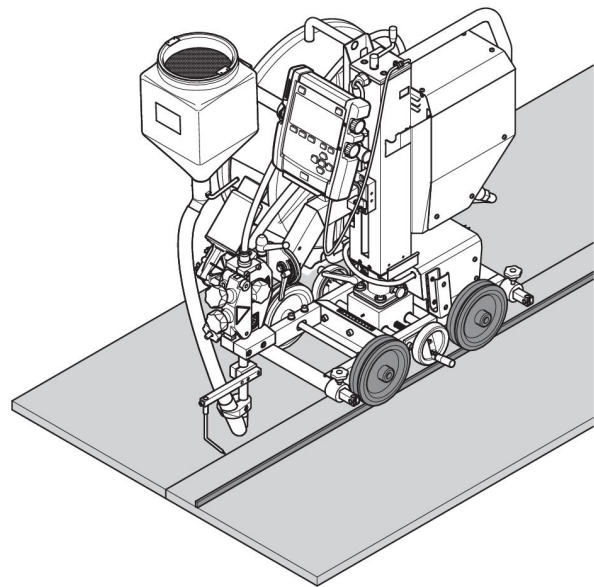
Use of the guide wheel bogey in a V-joint allows the welding tractor to track the joint. The welding tractor can pass over tack welds without problems, and without losing the track. The guide wheel bogey is secured to the contact tube, and the welding nozzle is positioned to weld behind the guide wheel bogey. See chapter "ACCESSORIES".



Grooved wheels (0443 682 881)

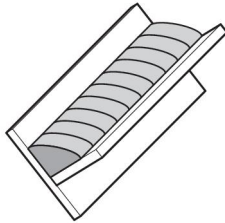
If there is no suitable edge along which to steer the welding tractor, as when making an I-joint, it can be fitted with two grooved wheels, which will run on an angle iron guide rails can be joined together to make up the required length.

See chapter "ACCESSORIES".



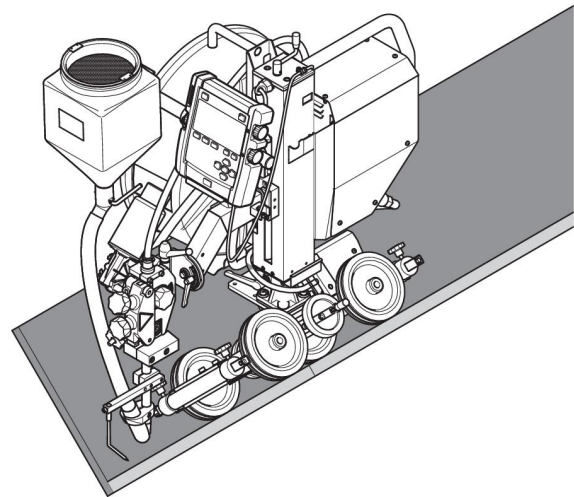
Flat fillet welding (0904 255 001)

The flat fillet welding kit can be used to keep the equipment straight upwards when welding a tilted fillet joint.



The angle can be set to 0, 30° and 45°.

See chapter "ACCESSORIES".



6 MAINTENANCE

6.1 General



CAUTION!

All warranty undertakings from the supplier cease to apply if the customer attempts any work to rectify any faults in the product during the warranty period.



NOTE!

Before doing any kind of maintenance work, make sure the mains cable is disconnected.

For maintenance of the control unit, **EAC 10**, see separate instruction manual.

6.2 Daily

- Make sure the column is in locked position.
- Make sure the welding head arm is in locked position.
- Make sure that the bobbin holder is in locked position.
- Clean flux and dirt off moving parts.
- Clean flux and dirt off slides.
- Check:
 - The rotation lock between the carriage and the column.
 - The welding head lock.
 - The bobbin holder lock.
- Check that the contact tip and all electrical cables are connected.
- Make sure all screwed joints are tightened.
- Check that guides and drive rollers are not worn or damaged.
- Check the brake hub braking torque. Tighten if the wire reel continues to rotate when the wire feed is stopped. Loosen if the feed rollers slip. As a guide, the braking torque for a 30 kg wire reel should be 1.5 Nm.
To adjust the braking torque, see section "Adjusting the brake hub".

6.3 Weekly

- Inspect the slides. Lubricate them, if they are binding.

7 TROUBLESHOOTING

Perform these checks and inspections before sending for an authorised service technician.

- Check that the welding power source is connected to the correct mains voltage.
- Check that welding cables and connections are not damaged.
- Check that the controls are correctly set.
- Check that the mains voltage is disconnected before starting any type of repair action.

Type of fault	Possible cause	Corrective action
Current and voltage readings show large fluctuations.	Contact jaws or nozzle are worn or wrong size.	Replace contact jaws or nozzle.
	Wire feed roller pressure is inadequate.	Increase pressure on wire feed rollers.
Wire feed is irregular.	Pressure on wire feed rollers is incorrectly set.	Adjust pressure on wire feed rollers.
	Wire feed rollers are of the wrong size.	Replace wire feed rollers.
	Grooves in wire feed rollers are worn.	Replace wire feed rollers.
Welding cables are overheating	Poor electrical connection.	Clean and tighten all electrical connections.
	Cross-sectional area of welding cables is too small.	Use cables with a larger cross-section or use parallel cables.

8 ERROR CODES

For error code information, see EAC 10 Instruction manual.

9 ORDERING SPARE PARTS



CAUTION!

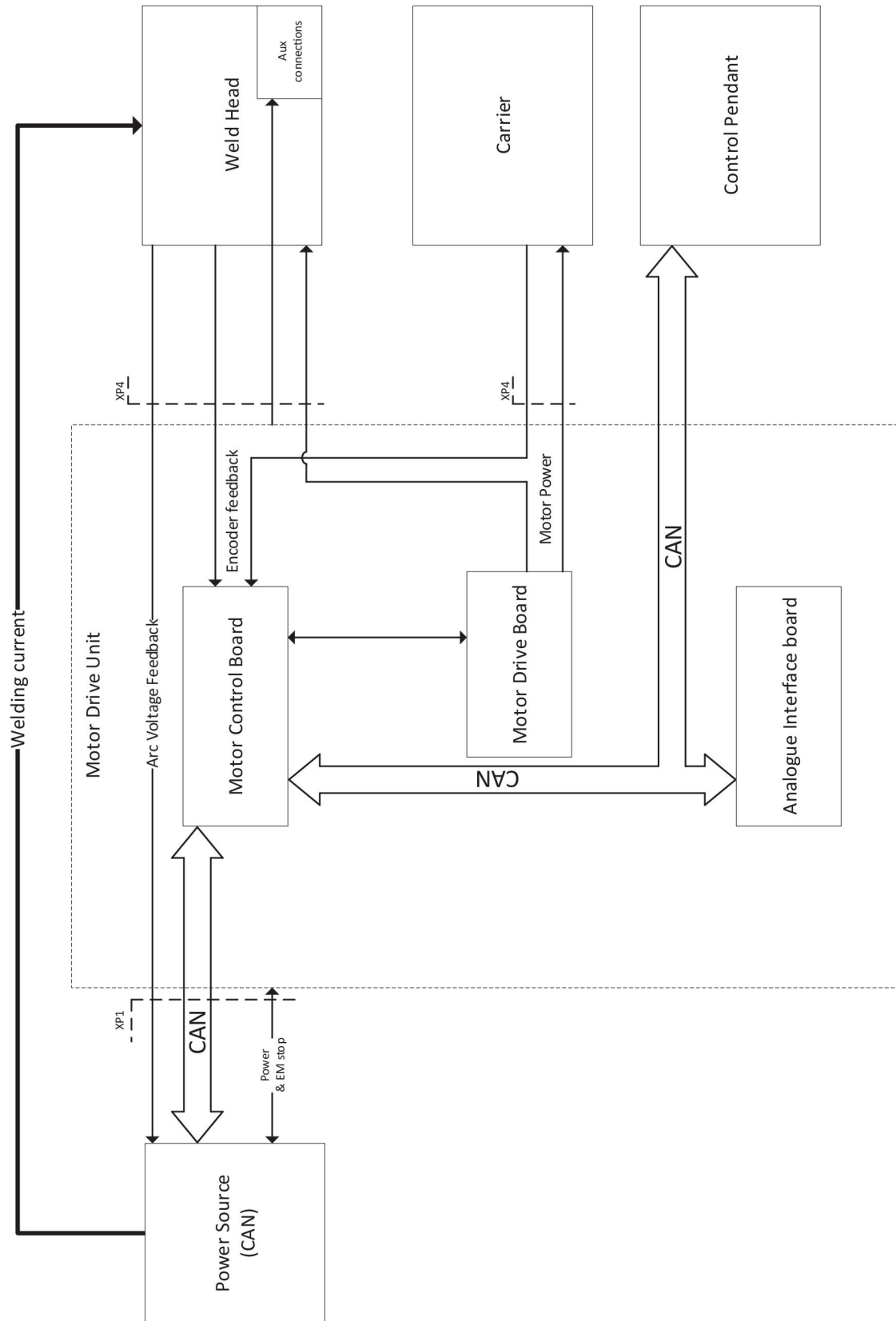
Repair and electrical work should be performed by an authorised ESAB service technician. Use only ESAB original spare and wear parts.

The EWT 1000 is designed and tested in accordance with international and European standards **IEC/EN 60974-5**, **IEC/EN 60974-10** and **EN 12100:2010**. On completion of service or repair work, it is the responsibility of the person(s) performing the work to ensure that the product still complies with the requirements of the above standard.

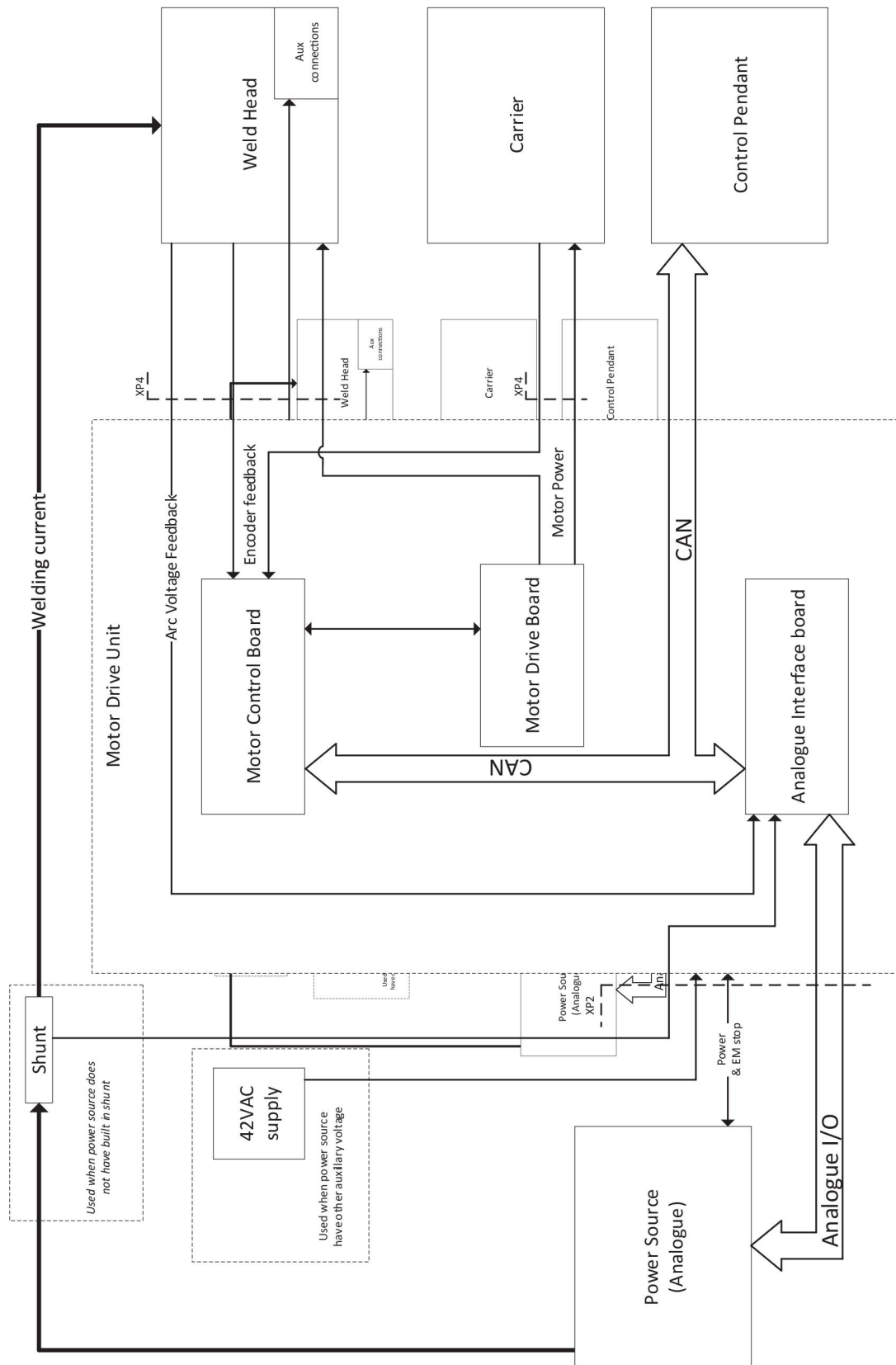
Spare parts and wear parts can be ordered through your nearest ESAB dealer, see esab.com. When ordering, please state product type, serial number, designation and spare part number in accordance with the spare parts list. This facilitates dispatch and ensures correct delivery.

DIAGRAM

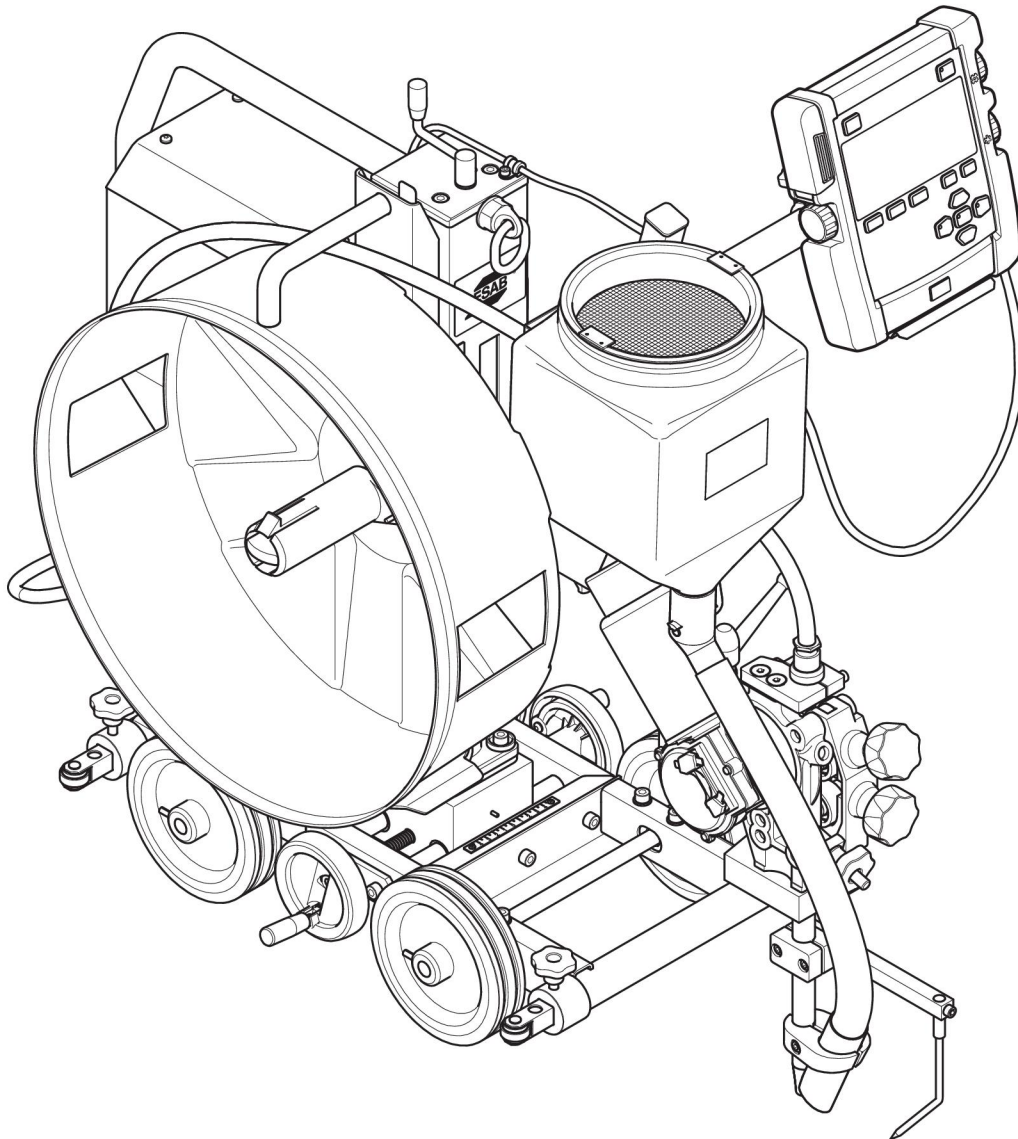
Digital power source



Analogue power source



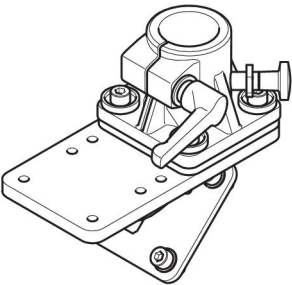
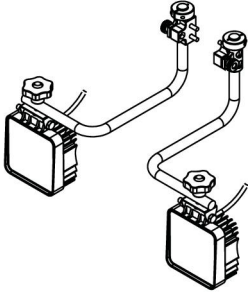
ORDERING NUMBERS

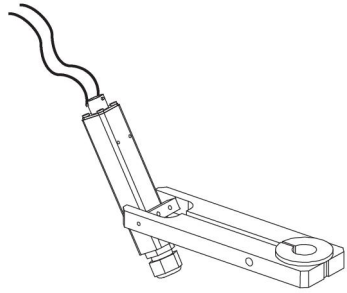
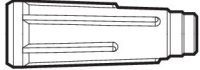
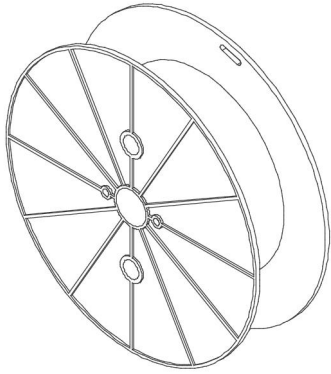


Ordering number	Denomination	Type	Notes
0904 200 880	Welding tractor	Versotrac EWT 1000 including welding head EWH 1000, bobbin holder and control unit EAC 10.	Feed roller and contact tip not included.
0463 627 *	Instruction manual	EWH 1000 welding head	
0463 612 *	Instruction manual	EAC 10 control panel	
0463 609 *	Instruction manual	EAC 10 control unit	
0463 614 001	Spare parts list		

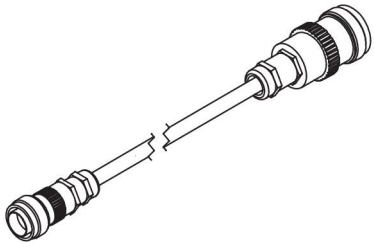
Technical documentation is available on the Internet at: www.esab.com

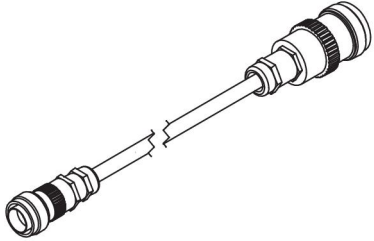

ACCESSORIES

EWT 1000		
0904 255 001	Flat fillet welding kit	
0904 273 880	LED lamp kit, 27 W, 12/24 V. Up to 2 lamps with additional power supply.	
0904 211 880	Bobbin module	
0333 164 880	Idling roller	
0443 682 881	V-wheeltrack in steel (4 pcs)	
0332 947 880	Bracket suction	
0904 223 880	Voltage reference option	
0413 542 880	Guide wheel bogey. For V-joints, used for joint tracking. For Fitting on the contact tube.	
0415 857 002	Wheel kit, heat resistant 250 °C (482 °F)	
0154 203 880	Guide rail with magnets, 3 m (9.8 ft). Several lengths of guide rail can be used.	

EWH 1000		
0821 440 880	Laser lamp kit	
0160 360 882	OKC connector, male, 70-120 mm ²	
0160 361 882	OKC connector, female, 70-120 mm ²	
0810 093 880	Flexible arm	
0148 140 880	Flux recovery unit OPC	
0413 315 881	Flux hopper of silumin alloy	
0145 221 881	Concentric flux feeding funnel	
0413 510 001	Contact tube, 260 mm (10.24 in.)	
0413 510 002	Contact tube, 190 mm (7.48 in.)	
0413 510 003	Contact tube, 100 mm (3.94 in.)	
0413 510 004	Contact tube, 500 mm (1 ft 7.7 in.)	
0413 511 001	Contact tube, bent	
0153 872 880	Wire reel, plastic, 30 kg	
0449 125 880	Wire reel, steel, flexible width	
0671 164 080	Wire reel, steel Ø 220 mm	

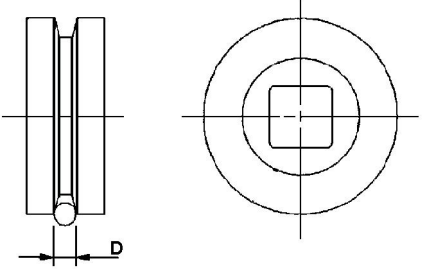
EAC 10**Control cable EAC 10 - digital power source**

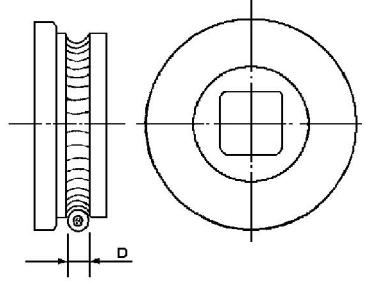
0460 910 881	15 m (49 ft)	
0460 910 882	25 m (82 ft)	
0460 910 883	35 m (115 ft)	
0460 910 884	50 m (164 ft)	

EAC 10		
Control cable EAC 10 - analog power source		
0449 500 880	15 m (49 ft)	
0449 500 881	25 m (82 ft)	
0449 500 882	35 m (115 ft)	
0449 500 883	50 m (164 ft)	
0449 500 884	75 m (246 ft)	
0449 500 885	100 m (328 ft)	
0462 062 001	USB Memory stick 2 Gb	

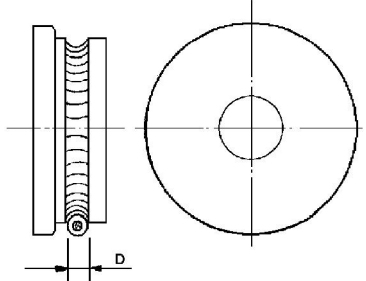
WEAR PARTS

Feed rollers

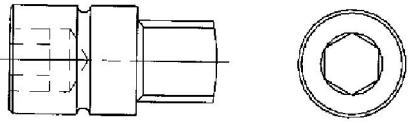
SAW		Part no.	D (mm)	
		0218 510 282	2.0	
		0218 510 283	2.5	
		0218 510 286	4.0	
		0218 510 287	5.0	
		0218 510 298	3.0–3.2	

Grooved and knurled roller for tubular wire		Part no.	D (mm)	
		0146 024 881	2.0–4.0	

Pressure rollers

Pressure roller groved and knurled for tubular wire		Part no.	D (mm)	
		0146 025 881	2.0–4.0	
		0146 025 882	5.0–7.0	

Stub shaft for pressure roller

EWH 1000 tubular wire		Part no.	



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For contact information visit esab.com

ESAB AB, Lindholmsallén 9, Box 8004, 402 77 Gothenburg, Sweden, Phone +46 (0) 31 50 90 00

<http://manuals.esab.com>

